Social, Economic, and Workforce Implications of IT and IT Workforce Development (SEW)

NITRD Agencies: NSF, DoD Service research organizations, NIH, DOE/SC, DOE/NNSA
Other Participants: GSA

The activities funded under the SEW PCA focus on the nature and dynamics of IT and its implications for social, economic, and legal systems as well as the interactions between people and IT devices and capabilities; the workforce development needs arising from the growing demand for workers who are highly skilled in information technology; and the role of innovative IT applications in education and training. SEW also supports efforts to speed the transfer of networking and IT R&D results to the policymaking and IT user communities at all levels in government and the private sector. A key goal of SEW research and dissemination activities is to enable individuals and society to better understand and anticipate the uses and consequences of IT, so that this knowledge can inform social policymaking, IT designs, the IT user community, and broadened participation in IT education and careers.

President's 2007 Request

Strategic Priorities Underlying This Request

Interactions between IT and society: Develop new knowledge about and understanding of the implications of new technologies for economic, social, and technical systems, and their dynamic interactions

Public policy: Sponsor activities that bring SEW researchers and research findings together with policymakers to foster informed decision making

Federal information sharing: Implement a Data Reference Model for information sharing as part of the Federal Enterprise Architecture and e-government initiatives

Government IT practitioner communities: Build communities of practice across all levels of government and private-sector organizations in which practitioners, with support from researchers, can work collaboratively on issues associated with implementing emerging technologies to improve government services

IT education and training: Support innovative educational approaches to broadening participation in IT careers, and doctoral and post-graduate programs to expand the highly skilled workforce in such fields as bio-informatics and computational science

Highlights of Request

Ecology of IT: New program emphases on understanding the ecology of IT, knowledge creation, innovation, and intellectual property issues; information privacy and other human-centered computing priorities; continue broadening participation by underserved communities in IT activities – NSF

Computational Science Graduate Fellowship Program: Continue support for advanced computational science training activity at national laboratories – DOE/NNSA, DOE/SC

Collaborative Expedition Workshops: Continue monthly series of open workshops exploring cost-effective implementations of emerging technologies in delivery of public services at all levels of government, establishing "communities of practice" among IT implementers across government and the private sector, and evaluating Data Reference Model for interoperable Federal information sharing – CIO Council, GSA, NSF, with SEW

Planning and Coordination Supporting Request

SEW functions as a crossroads between the networking and IT R&D community and the larger arena of policymakers and IT implementers. SEW has developed a partnership with GSA and the Federal Chief Information Officers (CIO) Council that sponsors a monthly open workshop series – the Collaborative Expedition Workshops – to encourage collaboration among government and community implementers of IT and to demonstrate promising IT capabilities emerging from Federal research. NSF co-sponsors these events and invites researchers to give academic talks on selected topics in order to bridge gaps between research and policy. The workshops draw participants from Federal, state, and local government, academia, industry, and other communities. The focus is on emerging technologies for applications in such areas as emergency preparedness

and response, environmental protection, public health and health care systems, government information services for citizens, and agency projects under the Administration's Federal Enterprise Architecture and e-government initiatives. Examples of current activities include:

Communities of Practice (COPs): As of 2006, a dozen COPs have been established, including the Data Reference Model Forum, the Federal Data Repository Users Group, the Government Semantic Interoperability COP, Grants.gov COPs, a geospatial COP, the Interoperable Manufacturing COP, and the National Infrastructure for Community Statistics COP

Workshop co-sponsorship: Expedition Workshop held in early FY 2006 on information integration in environments with complex legal and access issues co-sponsored by the HCI&IM CG; other collaborations planned in FY 2006

Additional 2006 and 2007 Activities by Agency

NSF: Continue SEW-related R&D initiated under ITR and core research and education programs; socio-technical issues in intelligence informatics; computing education and the IT workforce; collaborations with the European Commission Information Society and Media Programme; expand opportunities for innovative education and curriculum development projects; participate in human and social dynamics program

NIH: Graduate and postdoctoral fellowship programs in bioinformatics

GSA: Explore emerging standards and technologies that improve interoperability, ease of use, and cost-effectiveness of Federal IT implementations; foster open COPs around application of emerging technologies to improve government services